SECTION 1
INTRODUCTION

1.0 INTRODUCTION

In accordance with Executive Order (EO) 10485, as amended by EO 12038, no one may construct, connect, or operate an electric transmission facility capable of transferring power across a U.S. international border without first obtaining a Presidential Permit from the U.S. Department of Energy (DOE). On June 22, 2000, the Public Utilities Board of the City of Brownsville, Texas (BPUB) filed an Application for a Presidential Permit for the construction and operation of a new electric transmission line from BPUB's Silas Ray Power Plant to Mexico. The Application was accompanied by a filing fee of $150, as required by 10 CFR, Section 205.326 of DOE's regulations. On June 30, 2000, the DOE's Notice of Application appeared in Volume 65, No. 127 of the Federal Register, with a public comment period extending to July 31, 2000. No comments or interventions were received on the application.

1.1 SCOPE OF PROJECT

Due to significant electrical load growth in Mexico, the Comision Federal de Electridad (CFE) has declared need for electric power within its Northeast Control Area. The proposed Project would result in the sale of electrical energy to CFE to assist in that need. Determining whether there is, in fact, a need for electric power in the CFE system has been the subject of analysis and decisions by the Government of Mexico and is beyond the scope of this Environmental Assessment.

In anticipation of transmitting an Emergency and Economy power to the CFE, the BPUB has designed and proposes to construct a new 138-kV overhead transmission line from the BPUB Silas Ray Power Plant (Brownsville, Cameron County), into Mexico. Access to the U.S. portion of the Project begins at the Silas Ray Power Plant (at the western edge of the City of Brownsville). The proposed route along the U.S. side of the Project is entirely within BPUB's property, which extends to the Rio Grande River. A right-of-way of 50 feet wide will be required for the Project.

As shown by Figure 1, the total length of the transmission line (proposed route) will be approximately 3,000 linear feet (within the U.S.) from the Silas Ray Power Plant substation to the Rio Grande River. The transmission line will make an east-west crossing of the river at approximately 25°55'00" N latitude, 97°31'47" W longitude, which is approximately 3.7 miles upstream from the International Bridge in Brownsville. As shown by Figure 1, CFE will extend the line

approximately 1,600 additional feet from the border into Mexico to an existing 69/138-kV transmission line right-of-way. From there CFE will construct approximately 1.4 miles of additional line to an existing CFE substation in Matamoros.

1.2 PURPOSE AND NEED FOR PROJECT

The National Environmental Policy Act (NEPA) requires Federal decision makers to consider the environmental impacts of Federal actions. In this proceeding, the Federal action is the issuance (or denial) of a Presidential Permit to BPUB. Discussing "Purpose and Need" in terms of the Federal action would limit the discussion to the legal mandate/requirements for obtaining a Presidential Permit and would also limit the consideration of alternatives. Therefore, the "Purpose and Need," as considered within this Environmental Assessment (EA), will relate to the reason BPUB is proposing to interconnect with the CFE system.

BPUB's proposed cross-border transmission Project and its requisite application for a Presidential Permit are occasioned by CFE's declared need for electric power within its Northeast Control Area. Issuance of a permit by DOE would result in construction and operation of electric transmission lines and the sale of electrical energy to CFE to meet that need. Determining whether there is, in fact, a need for electric power on the CFE system has been the subject of analysis and decision by the Government of Mexico and is beyond the scope of this EA.

Denial of the permit by DOE would mean that BPUB could not construct and operate the proposed cross-border facilities. However, such denial of a permit (No Action Alternative) may not necessarily result in the maintenance of the "status quo." If one assumes that the need for electrical power in CFE's Northeast Control Area would still remain, then one must assume that CFE would pursue some other action to meet that need. Therefore, under the "No Action Alternative" this EA assesses the likely CFE alternative power supply options and their associated environmental impacts.

1.3 DESCRIPTION OF PROPOSED CONSTRUCTION

The proposed overhead line will be a double circuit configuration with six 954 MCM phase conductors (one conductor per phase) and two shield wires on wood pole structures. The line will be insulated for 138-kV but initially energized at 69-kV from the power plant switchyard. The frequency will be 60 Hz.

Initially the line will be capable of transferring 100 MW of power to Mexico at a voltage of 69-kV using only a single circuit. After a minor expansion of the switchyard, the line will be able to carry 200 MW at a voltage of 69-kV using both circuits to be constructed. After upgrades and modifications are made at the Silas Ray switchyard, the double-circuit line will be energized at 138-kV, and it will be able to carry 400 MW.

Photos 1 through 10 show the features observed along the proposed route of the transmission line. Drawings of typical support structures are shown in Appendix D. A total of nine structure locations, typically 300 to 400 feet apart, will be used for the U.S. portion of the Project. Design ruling span will be 400 feet. The longest span will be approximately 425 feet, which is the span across the Rio Grande River. A typical structure location consists of two or three wood poles, 15.5 feet apart for small and intermediate angle turns and 17 feet apart for large angle turns. Conductor phase spacing will be 15.5 feet as shown on Drawing DTH-10 (Appendix D). The poles will be directly installed in augured holes, averaging 10 feet deep. Excess excavated soil will be hauled from the site and used for fill at other locations. The height of the top of the structures will average 70 feet above ground level. Typical line to ground clearance will be at least 23 feet consistent with National Electric Safety Code requirements for 138-kV transmission lines. The minimum clearance above the Rio Grande River, which will include an adjustment for maximum line sag, will be 24 feet above the 41-foot floodway design high water surface level of the International Boundary and Water Commission (IBWC) floodway. The IBWC requires a minimum vertical clearance of at least 12 feet above the floodway design high water surface level in the area of the floodway channel. Additionally, IBWC requires that the transmission line be constructed and maintained in such a manner as to provide a minimum vertical clearance of not less than 28 feet above the levee crown. BPUB will provide at least 28 feet of clearance above the levee crown, between structures 9 and 10. Photos 1 through 4 show the features in the vicinity of the river crossing. The line design is "light loading" with 9# (60 mph) wind and no ice.

Side clearances for conductor wind blowout and right-of-way clearances will be a minimum of 25 feet from the center conductor. Trees and vegetation within the 50-foot right-of-way will be cut to a maximum of 25 feet.

Initially the proposed line will be capable of transferring 100 megawatts (MW) of power to Mexico at a voltage of 69-kV, using only a single circuit and an existing circuit breaker. After a second circuit breaker and related relaying are added to the switchyard (during 2002) both circuits will be available thereby increasing the capacity of the line to 200 MW. BPUB is also in the process of converting all 69-kV facilities to 138-kV. It is expected that by 2005 BPUB will begin this voltage conversion of the Silas Ray switchyard (including the Mexico double circuit line). This will involve replacing power transformers, circuit breakers, switches, and related equipment. At the time that this conversion is complete, BPUB proposes to energize each circuit at 138-kV, which will increase the total line capacity to Mexico to 400 MW. During this process there will be no need to enlarge the Silas Ray switchyard. These power transfer capabilities will not significantly change due to high ambient temperatures.

BPUB's Silas Ray Power Plant has an existing generating capacity of approximately 120 MW. Therefore, after installation of the second circuit breaker and energization of the second circuit, the proposed transmission line will have

sufficient capacity to transmit all of Silas Ray's generating capacity. BPUB does not have any current plans to increase generating capacity at Silas Ray to 400 MW. If or when any additional generation is proposed for Silas Ray, BPUB will submit requests and documentation to all appropriate authorities for supplemental approval.

In order to transfer power to CFE in Mexico, BPUB will isolate the electrical bus at the Silas Ray Power Plant from normal interconnections with the ERCOT electrical system in Texas and interconnect via the new line to the Mexico system. Power flow into Mexico is expected to range from 25 megawatts to 120 megawatts on an economy basis as needed. Brownsville has currently contracted for all local power needs to come from the ERCOT 138-kV system. With the systems thus separated there is no need to evaluate system power flows for the BPUB electric system.

Radio and television interference is not anticipated to be a problem for the proposed line. BPUB has similar facilities and design experience for 138-kV lines. Standard locking hardware will be used for the Project to minimize interference problems.

In addition to existing frequency, voltage and current monitoring of generation facilities at the Silas Ray Power Plant, the proposed line itself will be protected by over-current and zone distance relays.

All of the line constructed in the U.S. will be on BPUB property along existing gravel roadways. Beginning from the Silas Ray Power Plant Substation, approximately:

- Seven percent of the route will fall within Flood Zone C (areas of minimal flooding);
- The remaining 93 percent of the route (ending at the Rio Grande River) will fall within Flood Zone A (areas within the 100-year flood).

All of the structures on the U.S. side of the border, except the structure at the substation, will be located inside the International Boundary and Water Commission (IBWC) jurisdictional levee. Trees and vegetation at three structure locations will be removed. Clearing at the three locations will consist of the minimum needed to allow working within a 400-foot square area (i.e., approximately 20 x 20 feet). This will allow augering of pole holes and for groundmen to assist in constructing the structures.

No wetlands will be impacted during the placement of the structure locations. Construction techniques will include pull strings that will be "shot" from structure to structure (including the river crossing) and then used to pull tensioning cables into place. The tensioning cables will then be used to pull phase wires and static wires to the structures. There will be no need to place men or equipment in the river channel to accomplish any of this work.

1.4 AGENCY ACTIONS

1.4.1 U.S. ARMY CORPS OF ENGINEERS

The construction of the transmission line across the Rio Grande River will be subject to Section 10 of the River and Harbors Act (33 U.S.C. 403). A permit for the crossing will be obtained from the U. S. Army Corps of Engineers (USACOE) prior to construction of the crossing. Section 10 permits are required for any activity conducted in, over or under a navigable water of the United States. An Application for Section 10 River Crossing Approval was submitted to the USACOE on June 22, 2000. The USACOE will complete their review of this application after the Application for a Presidential Permit has been approved.

The Rio Grande has been determined, by the USCOE, to be navigable for approximately 275 miles inland from its mouth at the Gulf of Mexico. Since there will be no dredge material taken from the Rio Grande and fill material will not be placed into the Rio Grande or other "waters of the United States" along the proposed route, the Project will not need to be permitted according to Section 404 of the Clean Water Act.

Since the proposed transmission line crosses an international border, additional permitting requirements come into play relative to the USACOE permit. The USACOE regulations at 33 CFR 322.5(h) state that the construction and maintenance of electric power transmission lines across the border of the United States with a foreign country must be authorized by the President, the Secretary of State, or the appropriate delegated official. The USACOE has been provided a copy of the Application for a Presidential Permit for its review.

1.4.2 U. S. COAST GUARD

The U. S. Coast Guard was contacted to determine their authority regarding the Project. In their letter dated August 31, 2000 (Appendix B), the USCG indicated that no specific permit would be required, citing that they did not have jurisdiction over aerial transmission lines crossing navigable waters of the United States.

1.4.3 DEPARTMENT OF ENERGY

Pursuant to Executive Order 10485, as amended by Executive Order 12038, a Presidential Permit must be obtained from the U.S. Department of Energy for the proposed Project. This permit will authorize the construction, connection, operation, and maintenance of facilities for the transmission of electric energy at the international boundary of the U.S. An Application for a Presidential Permit was submitted to the Department of Energy by BPUB on June 22, 2000. As required by Part 205.322 of Title 10 of the U.S. Code of Federal Regulations (10 CFR 205.322), the Application requires information to be provided regarding the environmental impacts of the Project, as well as a discussion of the

alternatives to the Project. This Environmental Assessment document provides a description of the Project, the existing environment, the potential environmental impacts of the Project, and a discussion of alternatives of the Project.

1.4.4 INTERNATIONAL BOUNDARY AND WATER COMMISSION

A license from the IBWC is required for the construction of the proposed transmission line crossing IBWC-controlled lands. The IBWC has established requirements regarding height clearances and distances of structures from the IBWC jurisdictional levee; however, the IBWC has no formalized application form. An IBWC representative visited the Project Area on June 6, 2000. The representative provided input regarding clearances required above the levee crown (for crossing the levee between structures 9 and 10), and for clearances above the design high water surface level within the IBWC floodway. These issues were discussed in Section 1.3. The IBWC was provided a copy of the Application for a Presidential Permit for its review on June 22, 2000. The IBWC will complete their review after the USACOE Section 10 Permit and the Application for a Presidential Permit have been approved.

1.4.5 U.S. FISH AND WILDLIFE SERVICE

A representative of the U.S. Fish and Wildlife Service (USFWS) visited the Project Area on April 27, 2000. The representative's observations are described in the Consultation letter from USFWS dated May 4, 2000 (Appendix B). The comments from USFWS have been addressed in Section 4 of this report.

1.4.6 PUBLIC UTILITY COMMISSION OF TEXAS

As a municipal utility in the State of Texas, BPUB does not require a Certificate of Convenience and Necessity (CCN) from the Public Utility Commission of Texas for the Project.

1.4.7 TEXAS COASTAL COORDINATION COUNCIL

The Coastal Coordination Council reviews applicable projects for consistency with the Texas Coastal Management Program (TCMP). Through the TCMP, local, state, and federal programs are coordinated for the management of Texas coastal resources. In its letter dated May 16, 2000 (Appendix B), the Coastal Coordination Council has determined that the Project is not subject to consistency review under the TCMP.

1.4.8 TEXAS PARKS AND WILDLIFE DEPARTMENT

The Texas Parks and Wildlife Department (TPWD) was consulted regarding any concerns for issues under their jurisdiction. The TPWD provided comments regarding the Project in its memo dated May 24, 2000 (Appendix B). The comments from TPWD have been addressed in Section 4 of this report.

1.4.9 TEXAS HISTORICAL COMMISSION

R. W. Beck requested that the Texas Historical Commission determine the potential impacts of the proposed transmission line to cultural resources and provide input on any concerns that the Commission may have regarding the Project. The response, dated May 12, 2000 from the State Historic Preservation Officer (Appendix B), indicates that the Project will have no effect on National Register-eligible/listed properties or State archeological landmarks.

1.4.10 LOCAL

The building permitting departments of the City of Brownsville and Cameron County were contacted regarding the Project. According to representatives of these departments, building permits are not required for the Project.